

WHAT IS CLAIMED IS:

1. A polynucleotide comprising the nucleotide sequence which encodes a protein having the amino acid sequence set out in SEQ ID NO: 2:

Met-Asn-Gly-Phe-Ala-Ser-Leu-Leu-Arg-Arg-Asn-Gln-Phe-Ile-Leu-Leu-Val-Leu-Phe-Leu-Leu-Gln-Ile-Gln-Ser-Leu-Gly-Leu-Asp-Ile-Asp-Ser-Arg-Pro-Thr-Ala-Glu-Val-Cys-Ala-Thr-His-Thr-Ile-Ser-Pro-Gly-Pro-Lys-Gly-Asp-Asp-Gly-Glu-Lys-Gly-Asp-Pro-Gly-Glu-Glu-Gly-Lys-His-Gly-Lys-Val-Gly-Arg-Met-Gly-Pro-Lys-Gly-Ile-Lys-Gly-Glu-Leu-Gly-Asp-Met-Gly-Asp-Arg-Gly-Asn-Ile-Gly-Lys-Thr-Gly-Pro-Ile-Gly-Lys-Lys-Gly-Asp-Lys-Gly-Glu-Lys-Gly-Leu-Leu-Gly-Ile-Pro-Gly-Glu-Lys-Gly-Lys-Ala-Gly-Thr-Val-Cys-Asp-Cys-Gly-Arg-Tyr-Arg-Lys-Phe-Val-Gly-Gln-Leu-Asp-Ile-Ser-Ile-Ala-Arg-Leu-Lys-Thr-Ser-Met-Lys-Phe-Val-Lys-Asn-Val-Ile-Ala-Gly-Ile-Arg-Glu-Thr-Glu-Glu-Lys-Phe-Tyr-Tyr-Ile-Val-Gln-Glu-Glu-Lys-Asn-Tyr-Arg-Glu-Ser-Leu-Thr-His-Cys-Arg-Ile-Arg-Gly-Gly-Met-Leu-Ala-Met-Pro-Lys-Asp-Glu-Ala-Ala-Asn-Thr-Leu-Ile-Ala-Asp-Tyr-Val-Ala-Lys-Ser-Gly-Phe-Phe-Arg-Val-Phe-Ile-Gly-Val-Asn-Asp-Leu-Glu-Arg-Glu-Gly-Gln-Tyr-Met-Phe-Thr-Asp-Asn-Thr-Pro-Leu-Gln-Asn-Tyr-Ser-Asn-Trp-Asn-Glu-Gly-Glu-Pro-Ser-Asp-Pro-Tyr-Gly-His-Glu-Asp-Cys-Val-Glu-Met-Leu-Ser-Ser-Gly-Arg-Trp-Asn-Asp-Thr-Glu-Cys-His-Ileu-Thr-Met-Tyr-Phe-Val-Cys-Glu-Phe-Ile-Lys-Lys-Lys-Lys.

2. A polynucleotide comprising the nucleotide sequence set out in SEQ

ID NO: 1:

cagcaatgaa tggctttgca tccttgcttc gaagaaacca atttatcctc
ctgggtactat ttctttttgca aaltcagagt ctgggtcagg ataltgatag
ccgtcctacc gctgaagtc gtgccacaca cacaatttca ccaggacca
aaggagatga tgggtgaaaa ggagatccag gagaagaggg aaagcatggc
aaagtgggac gcatggggcc gaaaggaatt aaaggagaac tgggtgatat
gggagatcgg ggcaatatg gcaagactgg gccattggg aagaagggtg
acaaagggga aaaaggtttg cttggaatac ctggagaaaa aggcaaagca
ggtactgtct gtgaltgtgg aagataccgg aaatttgttg gacaactgga

tattagtatt gcccggetca agacatctat gaagtttgtc aagaatgtga
 tagcagggat tagggaaact gaagagaaat tctactacal cgtgcaggaa
 gagaagaact acaggggaatc cctaaccacac tgcaggattc ggggttggaat
 gctagccatg cccaaggatg aagctgccaac cacacacatc gctgactalg
 ttgccaagag tggcttcttt cggglgttca ttggcgtgaa tgacettgaa
 agggagggac agtacatgtt cacagacaac actccactgc agaactatag
 caactggaat gagggggaac ccagcgaccc ctatggatcat gaggactgtg
 tggagatgct gagctctggc agatggaatg acacagagtg ccatcttacc
 atgtactttg tctgtgagtt calcaagaag aaaaagtaac ttcctcacc
 ctacgtatctt gctattttcc tgtgaccgtc attacagtta ttgtlatcca
 tctttttttt cctgaltgta clacatttga tctgagtcaa catagctaga
 aaatgetaaa ctgaggtaig gagcctccat catcatgctc ttttgtgatg
 atttccatat ttccacacat ggtatgttat tgaccaata actcgccagg
 tlacatgggt cttgagagag aattttaatt actaattgtg cagagalag
 ttggttgtct atatgtcaaa tgagttgttc tcttggtalt tgctctacca
 tctctcccta gagcactctg tgtctatccc agtgataat tcccagttt
 actggtgatg attaggaagg ttgttgatgg ttaggctaac ctgccctggc
 ccaaagccag acatgtacaa gggctttctg tgagcaatga taagatcttt
 gaatccaaga tgcccagatg ttttaccagt cacacctat ggccatggcl
 atacttgga gttctcttgg ttggcacaga catagaaatg ctttaacccc
 aagcctttat atgggggact tctagctttg tgtcttggtt cagaccatgt
 ggaatgataa atacctcttt tgtgtcttct atctatcgat ttcactaaca
 tataccaagt aggtgcttgg aaccctttc tgtaggetca caccttaac
 tcaggccctt atatagtcac actttgattt aagaaaaacg gagcc.

3. A polynucleotide which encodes a collectin protein, wherein said polynucleotide can hybridize under a stringent condition with a probe produced from a genomic clone which shares high homology to a consensus collectin amino acid sequence set out in SEQ ID NO:3:

Glu-Lys-Cys-Val-Glu-Met-Tyr-Thr-Asp-Gly-Lys-Trp-Asn-Asp-Arg-Asn-Cys-Leu-
 Gln-Ser-Arg-Leu-Ala-Ile-Cys-Glu-Phe.

4. The polynucleotide according to claim 3, wherein the probe is

Sub A1

amplification products of PCR reaction which was performed using primers which have the nucleotide sequences set out in SEQ ID NO: 7 and SEQ ID NO: 8:

ttttgatggaggetccatacc (SEQ ID NO: 7)

ctgccaacacactcatcgctg (SEQ ID NO: 8).

5. A polynucleotide which can hybridize with any of the polynucleotide according to any of claims 1 to 4, wherein the protein encoded by said polynucleotide comprises: (1) Ca^{2+} -dependent carbohydrate recognition domain (CRD), (2) neck region, (3) collagen-like region, and (4) N-terminal region containing cysteine.

6. The polynucleotide according to any of claims 1 to 5, wherein said polynucleotide is cDNA.

7. A collectin protein encoded by the polynucleotide according to any of claims 3 to 6.

8. A collectin protein comprising the amino acid sequence set out in SEQ ID NO:2:

Met-Asn-Gly-Phe-Ala-Ser-Leu-Leu-Arg-Arg-Asn-Gln-Phe-Ile-Leu-Leu-Val-Leu-Phe-Leu-Leu-Gln-Ile-Gln-Ser-Leu-Gly-Leu-Asp-Ile-Asp-Ser-Arg-Pro-Thr-Ala-Glu-Val-Cys-Ala-Thr-His-Thr-Ile-Ser-Pro-Gly-Pro-Lys-Gly-Asp-Asp-Gly-Glu-Lys-Gly-Asp-Pro-Gly-Glu-Glu-Gly-Lys-His-Gly-Lys-Val-Gly-Arg-Met-Gly-Pro-Lys-Gly-Ile-Lys-Gly-Glu-Leu-Gly-Asp-Met-Gly-Asp-Arg-Gly-Asn-Ile-Gly-Lys-Thr-Gly-Pro-Ile-Gly-Lys-Lys-Gly-Asp-Lys-Gly-Glu-Lys-Gly-Leu-Leu-Gly-Ile-Pro-Gly-Glu-Lys-Gly-Lys-Ala-Gly-Thr-Val-Cys-Asp-Cys-Gly-Arg-Tyr-Arg-Lys-Phe-Val-Gly-Gln-Leu-Asp-Ile-Ser-Ile-Ala-Arg-Leu-Lys-Thr-Ser-Met-Lys-Phe-Val-Lys-Asn-Val-Ile-Ala-Gly-Ile-Arg-Glu-Thr-Glu-Glu-Lys-Phe-Tyr-Tyr-Ile-Val-Gln-Glu-Glu-Lys-Asn-Tyr-Arg-Glu-Ser-Leu-Thr-His-Cys-Arg-Ile-Arg-Gly-Gly-Met-Leu-Ala-Met-Pro-Lys-Asp-Glu-Ala-Ala-Asn-

Thr-Leu-Ile-Ala-Asp-Tyr-Val-Ala-Lys-Ser-Gly-Phe-Phe-Arg-Val-Phe-
 Ile-Gly-Val-Asn-Asp-Leu-Glu-Arg-Glu-Gly-Gln-Tyr-Met-Phe-Thr-Asp-
 Asn-Thr-Pro-Leu-Gln-Asn-Tyr-Ser-Asn-Trp-Asn-Glu-Gly-Glu-Pro-Ser-
 Asp-Pro-Tyr-Gly-His-Glu-Asp-Cys-Val-Glu-Met-Leu-Ser-Ser-Gly-Arg-
 Trp-Asn-Asp-Thr-Glu-Cys-His-Leu-Thr-Met-Tyr-Phe-Val-Cys-Glu-Phe-
 Ile-Lys-Lys-Lys-Lys.

9. A collectin protein comprising the amino acid sequence encoded by
 the polynucleotide comprising the nucleotide sequence set out in SEQ ID NO:

1:

cagcaatgaa tggctttgca tccttgcttc gaagaaacca atttatectc
 ctggtactat ttcttttgca aattcagagt ctgggtctgg atattgatag
 ccgtcctacc gctgaagtct gtgccacaca cacaatttca ccaggacca
 aaggagatga tggltgaaaa ggagatccag gagaagaggg aaagcatggc
 aaagtgggac gcatggggcc gaaaggaatt aaaggagaac tgggtgatat
 gggagatcgg ggcaatattg gcaagacitg gccattggg agaagggtg
 acaaagggga aaaaggttlt cttggaatac ctggagaaaa aggcaaagca
 ggtactgtct gtgattgttg aagataccgg aaatttgttg gacaactgga
 tatlagtatt gcccggtca agacatctat gaagtttgtc aagaatgtga
 tagcagggat tagggaaact gaagagaaat tctactacat cgtgcaggaa
 gagaagaact acagggaatc cctaaccac tgcaggattc ggggtggaat
 gctagccatg cccaaggatg aagctgccaa cacactcacc gctgactatg
 ttgccaagag tggcttcttt cgggtgttca ttggcgtgaa tgacctgaa
 agggagggac agtacatgtt cacagacaac actccactgc agaactatag
 caactggaat gagggggaac ccagcgacc ctatggatca gaggactgtg
 tggagatgct gagctctggc agatggaatg acacagagtg ccacttacc
 atgtactttg tctgtgagtt catcaagaag aaaaagtaac ttccctcacc
 ctacgtattt gctattttcc tgtgaccgtc attacagtta ttgttatcca
 tccltttttt cctgatigta ctacatttga tctgagtcaa catagctaga
 aaatgctaaa ctgaggtatg gagcctccat catcatgctc ttltgtgatg
 attttcataat ttccacacat ggtatgttat tgaccaata actcgccagg
 ttacatgggt cttgagagag aattttaatt actaattgtg cagagatag
 ttggttgtct atatgtcaaa tgagttgttc tctlggtatt tgctctacca

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10. The collectin protein according to any of claims 7 to 9, wherein the protein is derived from human.

11. The collectin protein according to any of claims 7 to 10, wherein the amino acid sequence of the protein comprises deletion, substitution and/or addition of one or more amino acids, and wherein the protein comprises: (1) Ca^{2+} -dependent carbohydrate recognition domain (CRD), (2) neck region, (3) collagen-like region, and (4) N-terminal region containing cysteine.

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